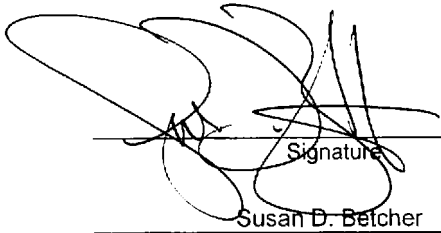


PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) 341148020US	
	Application Number 10/750,164-Conf. #5009	Filed December 31, 2003	
	First Named Inventor Wright et al.		
	Art Unit 3737	Examiner J. M. Kish	
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <p><input type="checkbox"/> applicant /inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>43,498</u></p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. _____</p> <p> _____ Signature Susan D. Belcher Typed or printed name</p> <p>_____ (206) 359-8000 Telephone number</p> <p>_____ June 5, 2007 Date</p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p> <p><input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.</p>			

(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Wright et al.

Application No.: 10/750,164

Confirmation No.: 5009

Filed: December 31, 2003

Art Unit: 3737

For: MARKER LOCALIZATION SENSING
SYSTEM SYNCHRONIZED WITH
RADIATION SOURCE

Examiner: J. M. Kish

ARGUMENTS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant submits along with the Notice of Appeal the following arguments for consideration by the conference panel. Applicant respectfully submits that the arguments point out clear errors in the rejection of the claims. Applicant respectfully requests reconsideration of this application in view of these arguments.

ARGUMENTS

Applicants' amendment of August 8, 2007, includes a listing of the claims on pages 2-5. In response to the applicants' previous amendments, the Examiner has rejected claims 1, 6, and 11 under the doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 6 of U.S. Patent No. 7,026,927 ("the '927 patent"); claims 1-2, 4-7, 9-12, and 14-15 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0193685 to Mate et al. ("Mate"); and claims 3, 8, and 13 under 35 U.S.C. § 103(a) as being unpatentable over Mate in view of U.S. Patent No. 5,729,129 to Acker et al. ("Acker").

A. Response to the Double Patenting Rejection

Claims 1, 6, and 11 were rejected under the doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 6 of the '927 patent. The '927 patent and the current application are commonly owned and therefore, applicants herewith provide a Terminal Disclaimer in accordance with C.F.R. §1.321. Because this rejection

was first raised in the Final Office Action, this is the first opportunity applicants have had to provide a Terminal Disclaimer, and therefore submit that the Terminal Disclaimer is timely filed.

B. Response to the Section 103 Rejections under Mate

The Examiner has failed to establish a *prima facie* case of obviousness because neither Mate, nor Mate in combination with Acker teach or suggest generating a subset of inputs by discarding corrupted input from a set of inputs. To establish a *prima facie* case of obviousness, the Examiner must provide the following: "[f]irst, there must be some suggestion or motivation...to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." (MPEP § 2142.) In addition, "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l Co. v Teleflex Inc.*, 550 U.S. ____ (2007)

For the reasons explained below, the §103 rejection of these claims is not proper as Mate alone, or Mate in combination with Acker fails to teach or suggest all of the claimed features. [MPEP § 706.02(j).] In the Final Office Action, the Examiner erroneously states that Paragraph 53 "describes a method for removing data that has been corrupted by an excitation source." The Examiner is incorrect. Paragraph 53 of Mate states that the "marker signal may be separated from the signal generated by the excitation source 32 via signal processing software or electronics in a number of ways" in order to allow the receiver to differentiate between the marker signal and the excitation source. (Mate, ¶0053) The marker's excitation signal and response signal are being differentiated; corrupted data is not being removed as stated by the Examiner. The Examiner then erroneously concludes that "broadly interpreted, this is describing filtering of relevant data from noise from an outside source." (Office Action; pg. 3). Again, the Examiner is incorrect. The marker's excitation signal is being separated from the marker's response signal in order to locate the marker. Mate does not teach, suggest, or disclose a method for generating a subset of inputs by discarding corrupted input from the plurality of inputs; Mate is silent with regard to corrupted data.

The Examiner further asserts that it would have been an obvious matter of design choice to "to remove erroneous data from a localization signal in order to localize the target correctly." Applicants disagree. The Examiner has failed to articulate a reasoned statement for why someone skilled in the art would know that data was corrupted or how, once identified, it would be removed. Further, the Examiner has failed to supply a reference or reasoned statement for designating input "acquired when a therapeutic radiation source is active" as corrupted as claimed. Applicants submit that the only motivation for generating a subset by discarding corrupt data is found in the claimed invention, and thus, the Examiner has impermissibly used hindsight analysis to reach his conclusion.

1. Mate Discloses a Target Locating and Tracking System, Excitable Markers, an External Excitation Source, a Plurality of Sensors, and a Computer Coupled to the Sensors and Configured to Identify a Target Isocenter.

Mate is directed to a system for locating a target associated with a patient. The system includes one or more excitable markers positionable in or near the target. The system also includes an external excitation source that remotely excites the markers to produce an identifiable signal, and a plurality of sensors spaced apart in a known geometry. The system further includes a computer coupled to the sensors and configured to use the marker measurements to identify a target isocenter within the target and compare the position of the target isocenter with the location of the machine isocenter. (Mate; abstract). Mate discloses a system that allows the target's actual position relative to the machine isocenter to be monitored during the radiation therapy so as to minimize collateral damage to healthy tissue surrounding the target. (Mate; ¶ 0035). Mate further discloses differentiating the marker's response signal from the marker's excitation signal. (Mate; ¶ 0053).

2. Mate Fails to Support a *Prima Facie* Case for Rejecting Claim 1 Under Section 103 for at Least the Reason that Mate Fails to Disclose or Suggest Generating a Subset of the Plurality of Inputs.

Mate fails to support a *prima facie* case for rejecting claim 1 under Section 103 for at least the reason that his reference fails to disclose or suggest generating a subset of the plurality of inputs. Independent claim 1 discloses (a) generating a subset of the plurality of inputs by (b) discarding corrupted inputs from the plurality of inputs, wherein (c) inputs that are acquired when a therapeutic radiation source is active are considered corrupted. In contrast, Mate discloses a computer controller that calculates the location of the machine isocenter relative to the sensor array. (Mate; ¶ 0038). The Examiner notes that Mate discloses a signal line between the controller computer 38 and the radiation delivery source at item 42. (Office Action, page 3) However, applicants fail to understand how the "signal line" is relevant to the claimed invention. The "signal line" disclosed in Mate is for detecting positional information relevant to the radiation isocenter. (Mate; ¶ 0038). The "signal line" is not disclosed as communicating information relevant to determining when the therapeutic source is active. Mate is silent with respect to the therapeutic radiation source signal and therefore does not disclose or suggest creating a subset of data by discarding corrupted inputs, wherein the input is considered corrupted when the therapeutic radiation source is active.

Furthermore, Mate discloses methods of differentiating a signal generated by the marker's excitation source from the marker's response signal. For example, the excitation source turned or gated "on" to excite the marker then turned or gated "off" to allow for measurement of the marker response without interference by the signal from the excitation source. (Mate; ¶ 0053) Other methods include having the excitation source remain "on" during measurement of the markers and have the marker signal 90 degrees "out of phase" with the signal from the excitation source, so the marker signal is removed from the

excitation signal for each data input. (Mate; ¶ 0053) Separating the marker's response signal from the marker's excitation signal does not disclose or teach generating a subset of inputs by discarding corrupt input wherein the corrupt input are acquired when a therapeutic radiation source is active. Further, as discussed and agreed upon during the telephonic Examiner's interview on June 9, 2006, the excitation source of Mate and the claimed invention is not equivalent, interchangeable, nor rendered obvious by the therapeutic radiation source of concern in the claimed invention. For example, the computer controller of Mate has control of the "on" and "off" status as well as the phase of the excitation signal from the excitation source, thus allowing Mate to differentiate between the signal generated by the marker's excitation source and the marker's response signal. The claimed invention is directed toward generating a subset of input by removing input corrupted by an outside source, namely, the therapeutic radiation source, for which the present invention accounts for, but which is not controlled in the system.

The Examiner asserts that "[r]egardless of whether the source is the actual excitation source or a therapeutic source, it would be obvious to one of skill in the art to remove erroneous data from a localization signal in order to localize the target correctly." The applicants disagree. The claimed invention is drawn to removal of data input in its entirety if the input was generated while a therapeutic radiation source is active. Mate discloses differentiating between an excitation signal and a response signal. The Examiner's merely conclusory statement fails to provide a reasoned statement for why one skilled in the art would generate a subset of the plurality of inputs by discarding corrupt inputs, wherein the inputs that are acquired when the therapeutic radiation source is active are considered corrupted.

The Examiner has failed to find teaching or suggestion of each claimed limitation, and as one skilled in the art would not be motivated by the cited reference to modify or combine the reference to produce the present invention, the Applicants respectfully submit that the claimed invention is not obvious in view of Mate. Claims 2 and 4-5 depend from claim 1. Therefore, the Section 103 rejections of these dependent claims should also be withdrawn for the reasons discussed above and for the additional features of these claims. Independent claims 6 and 11 include several features generally similar to claim 1. For example, claims 6 and 11 disclose methods of irradiating a patient with radiation from a therapeutic radiation source which includes steps of discarding selected data from the plurality of inputs to generate a subset of the plurality of inputs such that the subset includes data gathered when the receiver was not subject to interference from the therapeutic radiation source. Accordingly, for the reasons discussed above and for the additional features of these claims, the Section 103 rejection of claims 6 and 11 is unsupported by Mate and/or any additional source and should be withdrawn.

Claims 7, 9-10, 12 and 14-15 depend from otherwise allowable independent claims. Therefore, the Section 103 rejections of these dependent claims should be withdrawn for the reasons discussed above and for the additional features of these claims.

C. Response to the Section 103 Rejections under Mate in view of Acker

Claims 3, 8, 13 were rejected under 35 U.S.C. § 103(a) as obvious over Mate in view of Acker. The Section 103 rejection of these claims is not proper because the cited references fail to teach or suggest all of the claimed features. [MPEP § 706.02(j).] For the reasons explained above, Mate fails to teach or suggest generating a subset of the plurality of inputs. The Examiner does not cite Acker to correct the deficiencies of Mate. Applicants agree that Acker does not correct the deficiencies of Mate. Rather, the Examiner cites Acker to teach the matched filter for detecting interference, this does not teach or suggest generating a subset of the plurality of inputs. Further, Acker discloses and teaches an analog or digital band pass filter that is not equivalent to a matched filter. For example, the analog or digital band pass filter disclosed in Acker is an in-line filter designed to reject interference. The claimed matched filter is a separate off-line filter to detect interference. Modifying the Acker invention with the filter of the claimed invention will render the Acker invention inoperable for its intended purpose.

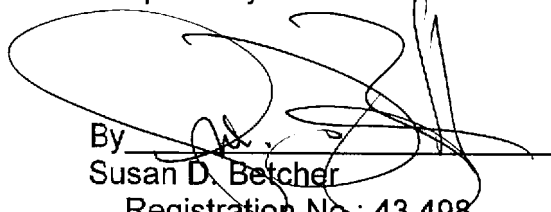
Acker fails to cure the deficiencies of Mate in order to support a Section 103 rejection of claims 3, 8, and 13. Furthermore, since claims 3, 8, and 13 depend from otherwise allowable independent claims 1, 6, and 11, the Section 103 rejections of these dependent claims should be withdrawn for the reasons discussed above and for the additional features of these claims.

Conclusion

In view of the foregoing, the pending claims comply with the requirements of 35 U.S.C. § 112 and are patentable over the applied art. The Applicants accordingly request reconsideration of the application and a Notice of Allowance. Applicant believes all fees for this Pre-Appeal have been paid. However, if a fee is due, please charge our Deposit Account No. 50-0665, under Order No. 341148020US from which the undersigned is authorized to draw.

Dated: June 5, 2007

Respectfully submitted,



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